

WHAT IS CLAIMED IS:

1 1. A method for transferring messages in a distributed communication
2 network, wherein the distributed communication network includes a message source coupled
3 to a message destination by a plurality of message paths, each of the message paths including
4 at least one overlay route processor coupled to the message source by at least one network
5 path, the network path including intervening network components, the method comprising:

6 choosing a plurality of candidate overlay route processors;

7 ascertaining the identity of the intervening network components in the
8 network paths between the message source and each of the candidate overlay route
9 processors;

10 selecting a plurality of selected overlay route processors from the
11 candidate overlay route processors based on minimizing the number of overlapping
12 intervening network components in the network paths between the message source and the
13 selected overlay route processors by analyzing the ascertained identities of the intervening
14 network components; and

15 transferring a message from the message source to the selected overlay
16 route processors along the network paths with a minimized number of overlapping
17 intervening network components.

1 2. The method of claim 1, further comprising during the selecting step,
2 selecting a plurality of selected overlay route processors with zero overlapping intervening
3 network components in the network paths between the message source and the selected
4 overlay route processors.

1 3. The method of claim 1, wherein the choosing step includes choosing at
2 least five candidate overlay route processors.

1 4. The method of claim 1, wherein the ascertaining step includes
2 ascertaining the identity of intervening network components including intervening routers,
3 intervening switches and intervening firewalls.

1 5. The method of claim 1, wherein the selecting of a plurality of selected
2 overlay route processors from the plurality of candidate overlay route processors is based
3 initially on minimizing the number of overlapping intervening network components in the
4 network paths between the message source and the selected overlay route processors and then
5 based on minimizing the number of intervening network components.

1 6. The method of claim 1, wherein the selecting of a plurality of selected
2 overlay route processors from the plurality of candidate overlay route processors is based
3 initially on minimizing the number of overlapping intervening network components in the
4 network paths between the message source and the selected overlay route processors and then
5 based on maximizing the transmission speed between the message source and the selected
6 overlay route processors.

1 7. The method of claim 1, wherein the ascertaining step includes
2 ascertaining the IP-address identity of the intervening network components.

1 8. The method of claim 7, wherein the ascertaining step uses a series of
2 User Datagram Protocol (UDP) packets.

1 9. The method of claim 7, wherein the ascertaining step uses a series of
2 Internet Control Message Protocol (ICMP) packets.

1 10. The method of claim 1, further comprising during the transferring step,
2 transferring a message from a connector message source.

1 11. A method for transferring messages in a distributed communication
2 network, wherein the distributed communication network includes a connector message
3 source coupled to a connector message destination by a plurality of message paths, each of
4 the message paths including at least one overlay route processor coupled to the message
5 source by at least one network path, the network path including intervening network
6 components, the method comprising:

7 choosing a plurality of candidate overlay route processors;

8 ascertaining the IP-address identity of the intervening network
9 components in the network paths between the connector message source and each of the
10 candidate overlay route processors;

11 selecting two selected overlay route processors from the plurality of
12 candidate overlay route processors based on minimizing the number of overlapping
13 intervening network components in the network paths between the connector message source
14 and the two selected overlay route processors by analyzing the ascertained IP-address
15 identities of the intervening network components; and

16 transferring a message from the connector message source to the two
17 selected overlay route processors along the network paths with a minimized number of
18 overlapping intervening network components.

19 12. The method of claim 11, further comprising during the selecting step,
20 selecting two selected overlay route processors with zero overlapping intervening network
21 components in the network paths between the connector message source and the two selected
22 overlay route processors
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